OHIO ACADEMY OF SCIENCE

GEOLOGY SECTION

FIELD TRIP

SELECTED GEOLOGIC HIGHLIGHTS WITHIN THE CENTRAL STARK COUNTY AREA

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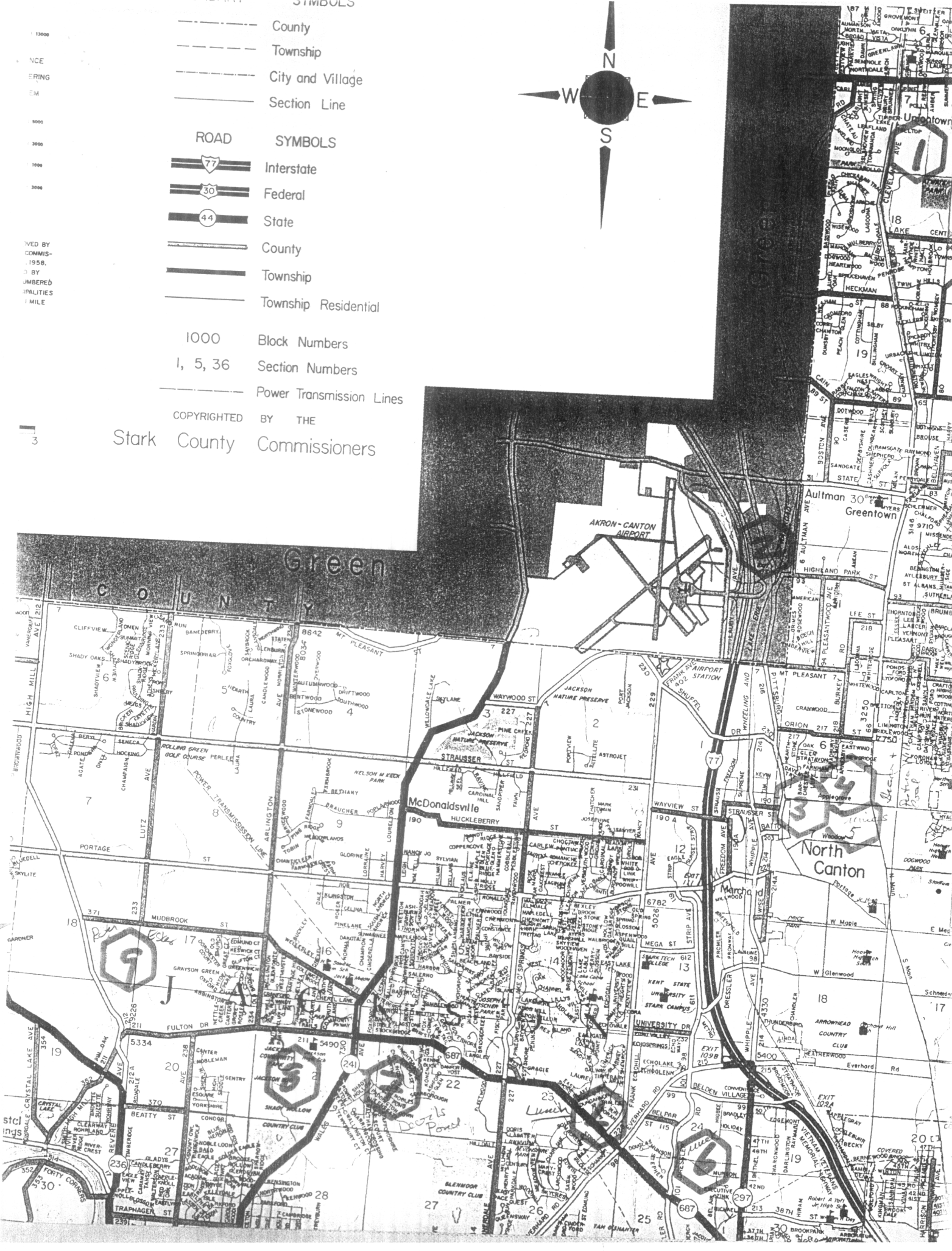
SYMBOLS
County
Township
City and Village
Section Line
ROAD SYMBOLS
Interstate
Federal
State
County
Township
Township Residential
1000 Block Numbers
1, 5, 36 Section Numbers
Power Transmission Lines
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N
W
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C O U N T Y
AKRON-CANTON AIRPORT
Aultman
Greentown
Uniontown
McDonaldsville
North Canton
Jackson
Lake Cable
Lake Center
Heckman
Applegrove
Meadowood
Arrowhead Country Club
Blenwood Country Club
Shady Hollow Country Club
Jackson Nature Preserve
Rolling Green Golf Course
Power Transmission Line
Forty Corners
Traphagen
Belden Village
Frank E. Duhl
Robert A. Taft Jr. High Sch
Hoover High Sch South
Stadium
Pool
Lunch
Picnic
Dam
Mt Pleasant
Waywood St
Strausser St
Wayview St
Huckleberry
Portage St
Mudbrook St
Fulton Dr
University Dr
Mega St
Everhard Rd
Cleveland Ave
Whipple Ave
Dressler Ave
Freedom Ave
Wheeling and Lake Erie
Frank Ave Airport Station
Shuffel
Lutz
Arlington
Aultman Ave
Boston St
High Mill Ave
Lake Ave
Portage
W Morris
E Morris
W Glenwood
Schneider
Everhard Rd
Belden Village
Frank E. Duhl
Robert A. Taft Jr. High Sch
Hoover High Sch South
Stadium
Pool
Lunch
Picnic
Dam

2001 FIELD TRIP
GEOLOGY SECTION
OHIO ACADEMY OF SCIENCE
ROAD LOG

(Miles)

0.0 Start at McDondalds restaurant at the Carnation Mall, roughly 2.0 miles west of the State Street entrance to Mount Union College.

Turn left onto State Street, and proceed westward

1.0 Cross a bridge then turn right on to McCallum Avenue.

The re-advance of the Hiram glaciation moved up this valley and deposited the silty clay & clayey till further upstream from this point, but not on the highland surrounding this location.

1.5 Till plain consists of Lavery basal till capped with meltout till. The less clayey melt out till has enabled the development of the Canfield-Ravenna and the Wadsworth-Rittman soil associations.

2.9 Cross Beeson Street

3.1 Shaley bedrock outcrops in these drainage ways.

3.3 Rather extensive terrace deposits of thin loamy outwash over clayey (Hiram Re-advance) till

4.1 Turn left (west) onto Edison Street, terrace position at base upland with Lavery till fairly shallow over shaley bedrock.

Proceed westward within Mahoning River Basin.

8.3 Cross into Nimishillen Creek (Muskingum River) Drainage basin.

8.4 This slope descends to the west and is the western face of a till plain compred of up to 12 feet of melt-out till over basal Lavery till.

8.5 State Route 44, proceed west across kamey outwash and melt-out landscapes.

9.4 Sandy outwash terrace on left (south) side of road.

9.7 Swartz Ditch, artificial drainage channel to enable drainage of extensive wet areas to the north and northwest.

10.4 Green houses and view to the north is of the Hartville Muck area which is on the drainage divide between the Cuyahoga River to the north and the Muskingum basin to the south.

10.6 View of vegetable farming on the Hartville Muck.

11.8 Log cabin, formerly white clapboard sided farm house

12.5 Longaberger basket plant. Manufactures baskets and processes the wooden staves for all of the baskets.

13.1 Ohio Route 43 turns northwest toward Kent.

14.2 Hartville Kitchen, Amish style food served by Mennonite and Amish women. Restaurant with upscale appearance, modest prices and excellent food - especially the home made pies.

15.3 Drainage way flowing to the south is a tributary of the Tuscarawas River which flows southward then turns northward to South Akron, Turkey Foot Area then south to Massillon.

15.4 Sandy terraces around ice block depressions on both sides the road.

16.4 Moraine landform that has been built up with multiple ice advances and well as containing kame and outwash deposits.

16.6 View of sandy terrace to the west, which overlies sandstone. Terrace is contaminated with hydrocarbon solvents.

16.8 Turn left on to Cleveland Avenue, Route 800.

17.0 Ice block depressions in kamey deposits, especially on the east side of the street

17.1 STOP 1
Access drive into the Uniontown Industrial Excess Landfill (UIEL), a Super Fund site with highly variable site geology and an unsure listing of materials placed here.

Turn to the left and continue south on Cleveland Avenue.

17.2 Ice block depressions in kamey deposits, especially on the east side of the street

17.6 Kames on terrace levels, especially on the west (right) side of the road. These deposits were mined for aggregate to levels below the road then backfilled with less permeable soil materials.

19.1 Three dimensional advertising sign on right.

Rise onto meltout till deposits.

19.8 Outwash terrace on west side of street. These terraces are of the same terrace deposits that began far to the north in Geauga County.

20.1 Traffic light at State Street, turn right (west) onto State Street.

20.4 Drop down on to the terrace mentioned above.

24.7 Muck area to the north occupies the drainage divide between the Tuscarawas river basin to the north and the Nimishillen basin to the south.

24.9 Turn left (south) onto Aultman Avenue. This street is on the Stark County side of the Stark-Summit County boundary.

25.1 On the left are strip-mine highwalls that expose abandoned underground coal mine rooms. As late as 1962, there was active surface mining of coal, clay and also sand & gravel. It was permitted as a sand and gravel operation.

25.2 The west side of the street was the site of ceramic tile kilns. The upland further to the west contains extensive underground coal mine workings.

25.5 Waste tile materials excavated for aggregate use.

25.6 Foundation for tipple associated with underground mining, left (east) side of road.

25.7 Intersection of Aultman Avenue & Highland Street Highland Street was not to be built until we made recommendations as to draining the water saturated, unoxidized till materials.

POSSIBLE SIDE TRIP: LOCATION OF COMMERCIAL BUILDING OFF OF DELINEATED ABANDONED UNDERGROUND COAL MINE WORKINGS

26.0 "T" intersection with Mayfair Street. To the west is the Akron-Canton Airport located on a till covered bed rock upland. White classified the till as being of the Navarre advance from the west.

Turn right (north) and cross the rail road, go up the grade to past the curve. This upland is the site of the extensive, abandoned underground coal mine voids.

26.4 STOP 2
Limited parking on the left side of Mayfair Road, across the street from a fenced off disposal site.

In the woods are depressions cause by the cave-in of the underlying mine rooms. The Putnam Hill Limestone outcrops immediately to the west of the parking area.

On the west side of the road there were attempts to surface mine the underground coal workings. The equipment kept falling into the mine rooms.

Turn around and go (south) across the rail road tracks that occupy the center of the outwash col then up onto a high terrace level that is of a similar age as the terrace mentioned north of Aultman at the 19.8 and 20.4 mile marks.

Proceed across Mount Pleasant Street and continue southward on Pittsburgh Road.

26.9 Across the broad outwash channel are thick till deposits of the Navarre advance (from the Killbuck Lobe to the west)

27.0 The higher upland to the east contains abandoned underground coal mine workings.

27.9 Continue for roughly a mile to the traffic light at the intersection with Applegrove Street

Turn left (east) and continue 0.2 mile to the gray gravel driveway on the right, pull in and park.

28.1 STOP 3
A large crushed stone column was created through the underground coal mine workings for a new building.

Turn right (east) and continue 0.2 mile to Ellsmere Avenue. Turn left (north)

28.3 STOP 4
Houses recently built over abandoned underground coal mine workings that were known in the community.

Stark County did not allow building over known underground mining operations. Except for a very few special approvals for individual buildings built by longer term land owners.

Incorporated into the City of North Canton.

Extensive grouting of underlying rooms upon subsidence of yards and buildings.

28.3 Return to Applegrove Street and turn left (east)

28.5 Turn to the left into McDonalds - REST STOP

POSSIBLE WALKING TRIP TO SUBSIDENCE DEPRESSIONS UP TO 10 FEET DEEP, located on the south side of Applegrove Street.

Turn right (west) and continue to first traffic light
29.1 Pittsburgh Road is generally along the contact of the outwash terrace and the till covered upland.

Proceed westward to the next traffic light at the
29.3 intersection of Applegrove and Whipple.

29.3 At Whipple Avenue, turn left (south) and proceed to the nest traffic light at Portage Street.

The bluish metal buildings on the opposite corner (southwest) are part of the North Canton Municipal Garages that are built on the NE corner of their water well field.

On your right is a deep drainage ditch that was excavated to drain these sandy soils that were formerly quite wet. This lowered the water table as much as 10 feet.

Across this ditch is the ground water processing plant then water well field. Capacity of water wells up to 500 GPM in outwash gravels and sands.

Except for the City of Alliance; nearly all of Stark County residents obtain their water from ground water sources.

30.3 Portage Street Intersection, IR-77 is less than 0.5 miles to the right.

Continue south on Whipple Avenue to the next traffic light - Dressler Road/Glenwood Street intersection.

31.5 As you approach the Dressler Road intersection, the upland to the rear of the southeast corner is outwash sands and gravels deposited over a bedrock hill.

A sobering note to empathize the importance of safety -even for relatively shallow excavations: a young man was killed in a sand cave-in when he bent over to adjust a pipe in a relativity shallow trench. His father and brother were unable to free him soon enough.

31.8 Terrace level that has been mined to afford building sites to left (east) of street.

31.9 Cross the railroad tracks, on your right (west) the extensive parking area and low buildings are built on fill over water saturated, weak, soils.

Proceed to the next traffic light - Everhard Road.

32.3 The upland to the rear of the southeast corner with the hotel and other sizeable building are on a bedrock hill that was formerly covered with outwash sands and gravels.

32.4 Pass under IR-77 then on you right (west) is the Belden Village Mall. The mall was build on an area of kame and kettle topography with mucky depressions as much as 25 feet deep. The muck was excavated and then backfilled with the on-site sandy materials.

33.3 Proceed to the third traffic light and turn right onto Munson Street. This street crosses a deep and wide area of weak organic soils.

Because street stability was required, the muck was excavated and backfilled with compacted sandy materials, then the street was built over the fill.

Continue 0.3 miles to a construction drive on the right. Turn in onto the future Higbee Avenue connection with Munson Street.

33.6 Stop 6.
Street stability is not important so the street is being built over the mucky materials remaining in situ. A geotextile was placed over the bare muck, a layer of sand is added, then rolled plastic reinforcing grid is placed over the sandy fill.

Turn right (west) onto Munson Street and proceed 0.3 miles to the nest traffic light at the intersection
33.9 of Munson Street and Dressler Road

Turn left (south), proceed to the next traffic light, intersection with Fulton Road.

Dressler Road, especially to the north, was built over a former sand and gravel operation that had spread excess sandy materials over mucky soils. The street was located so as to maximize stability to the road. Many of the adjacent buildings were shifted on the building sites to maximize stability and minimize costs.

34.3 At Fulton Road turn right (west). On the left is a golf course that is on a kamey upland..

Proceed west one mile through the next traffic light.

35.2 --- Lunch Stop - On Your Own ---

BURGER KING ON YOU RIGHT OR MCDONALDS 0.1 MILE TO WEST OF INTERSECTION, RIGHT SIDE OF FULTON ROAD.

END OF DIRECTED FIELD TRIP

INDIVIDUALS MAY CONTINUE TO OPTIONAL SITES BY USING THIS LOG THAT INCLUDES ADDITIONAL SITES OF INTEREST

HAVE A SAFE TRIP HOME

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ROAD LOG

ADDITIONAL SITES - ON YOUR OWN

Miles

0.0 Turn left (west) onto Fulton Road.

Roughly 0.5 miles west of Frank Road is Lake Cable.

0.5 Lake Cable was created by flooding an extensive lowland with a relatively low dam. This lake and housing layout was created in the early 1930's.

The stone commercial building on the right is reportably the first single building, shopping mall in Stark County built in the early 1930's.

0.9 Brunnerdale Avenue (Elev. 1105.5 M.S.L.).

Note the irregular heights and lineal nature of the long land form in front and west of you.

The higher elevations of the ridge range between 1180-1220 M.S.L.

This landform consists of mixed glacial materials; very similar to an end or recessional moraine.

1.6 As you cross over the crest of this moraine land form you are entering an interior drainage basin of over 2.5 square miles.

1.9 This south flowing challelized drainage way carries nearly all of the surface water within this basin to Nobles Pond.

At Nobles Pond, the water flows underground for roughly 1500 feet, then comes out into lower, wetland areas to the west as springs.

Continue westward and downward to the intersection of Fulton Drive with Wales Road.

2.2 Turn left (south) onto Wales Road. Proceed roughly 0.7 miles and turn left into The Meadows and onto Shady Hollow Drive.

Proceed 0.5 miles to the end of Shady Hollow Drive

2.9 STOP V Noble Pond.
Nobles Pond is the outlet for this interior drainage basin as well as a paleo indian village.

3.4 Return to Wales Road, turn right (north) and proceed 0.7 miles to Fulton Road.

4.4 Fulton Road intersection with Ohio 241. There was a large brick house on the northwest corner of this intersection. It was moved ____ miles to the west.

Turn left (west) and proceed across outwash terrace.

4.5 Ice block depression (right) sealed to hold water.

4.7 The ice block depression on the left was filled with miscellaneous fill from a road cut. The compaction of the materials "accidently " sealed the bottom of the depresion so that the ponded water became a hazard. The depression was filled sufinelty to prevent ponded water.

5.0 STOP 8, Jackson "Bog"
This fin is maintained by the infiltration of water into the terrace deposit, which flows laterally over a restrictive horizon; then outlets near the base of the slope.

It is very probable that the restrictive horizon is a layer of Hayesville till that has been encountered by water wells.

The water level in the ponded area to the south of the bog has been elevated by the consturction of a mill pond as seen roughly 0.4 miles furhter west.

5.0 Return to Fulton Road, turn left and proceed.

5.2 Ice contact outwash deposits of gravels, cobbles and sands.

5.4 The ponded water is the result of a heightened mill pond that was built to serve a water wheel mill.

6.1 Old mill race way as in crosses under the road.

6.3 At the intersection with High Mill Avenue, turn right (north). The water park is built on the site of a former water mill run by an under shot water wheel.

6.5 Proceed northward. On the left is a view of the till upland and wet, low soils on the right. Further to the east are high kame terrace and melt out till deposits.

6.6 Stop
To the right (east) is the Rohr Esker.

This is a limited potential stop because of lack of parking and private property.

The cut into end of the esker shows horizontal bedding and lateral collapse structures. This esker will soon be removed and the land leveled for agricultural use.

7.0 Approaching intersection with Mudbrook Street to the right. Westward from this position are kame terrace deposits. There was a former kame to the west of High Mill Avenue that was removed to enable more level fields for the land owner.

7.2 Turn right onto Mudbrook Street for a view of the Esker from the north, along its long axis.

7.6 Immediately to the west of the stream is a former railroad bed that carried coal from an abandoned underground shaft mine that was located to the north.

7.7 The sand & gravel pit excavated into this terrace on the right (south). This terrace that is associated with the esker at Stop-

Continue eastward up onto kamey and melt out till deposits, proceed to intersection with Arlington Road.

9.0 There are abandoned underground mines beneath the hill to the north, especially to the east of Arlington Avenue.

This intersection is on relatively thin till over "dry" sands and gravels.

Continue east to the end of Mudbrook Street at Ohio 241.

9.7 Descend down onto major terrace position.

11.2 Massillon to the right (south), Route 77 to the east via Portage Street. Directions are on an accompanying sheet

END OF ROAD LOG

HAVE A SAFE TRIP HOME

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To IR-77 FROM Lunch Site

Turn left (east) on Fulton Road, proceed to first traffic light, Turn Left on to Everhard Street.

Access onto IR-77 South can be gained by going roughly 1.1 miles, past least the third traffic light.

Access for IR-77 North is a bit further east.

To IR-77 FROM Mudbrook & OH 241

Turn left (north) cross major drainage channel within interior basin, up till capped bedrock hill and on to the first traffic light (Portage Street).

Turn right (east) and proceed 2.1 miles through three (3) more traffic lights. IR-77 will be ahead of you.

To US-21 FROM Mudbrook & OH 241

Turn right and head south on OH 241 over 2 miles into Massillon.

At 3.5 miles there will be a traffic light with a right hand turn lane on to Lake Street. Proceed westward for roughly one mile, through two (2) traffic lights. The third traffic light with be US 21, Right to north and left to south and Route 30.

HAVE A SAFE TRIP HOME